Technical details

Specification
The Acorn Bitstik system comprises:
- A precision three-axis joystick.
- An 80 track disc containing system master software, utilities and a sample library of drawings.
- A 2764 service ROM for fitting in the BBC Microcomputer, containing the Bitstik graphic system.
- A comprehensive User Guide.

Software facilities
Line: Draws a straight line between two selected points.
Circle: Draws a circle with a selected centre and radius.
Arc: Draws an arc between two selected points with a selected centre and radius.
Nib: Enables lines to be drawn to any width, in any of the selected colours, and to be dotted, dashed or shaded.
Paint: Fills any area with colour.
Trace: Allows freehand drawing, eg to trace round image superimposed on screen.
Erase: Deletes individual lines in reverse order.
Find: Enables lines to be drawn to/from exact ends of other lines, centres of circles etc.
Text: Text can be added in any colour and at any size and rotation.
File to library: Saves drawings to disc library with visual catalogue.
Copy from library: Retrieves drawings from library, optionally with rotation, change of scale on X and/or Y axis, and X and/or Y axis reversal.
Move: Moves element copied from library to different part of screen.
Duplicate: Repeats element copied from library.
Swap: Replaces an element copied from library by another library element.

Zoom: Enlarges part of screen to full screen size. This operation can be repeated more than 40 times on the same drawing.
Pan: Moves screen across enlarged drawing.
Page: Returns from zoom to original drawing.
Angle: Locks angles at which lines can be drawn. Two pairs of angles can be chosen.
Orthogonal: Locks angles at which lines can be drawn to 0° and 90°.
Normal/tangent: After drawing arc, locks angles normal to and at tangent to arc.
Grid: Locks start and end of lines and centres of circles to points on a grid. Three grids available: 8×8 and 8×6 pixels and one user definable. Grids can be angled.
Wipe: Clears screen.

Software utilities
Bit images of screen can be saved and reloaded.
Zoom level and location can be saved and reloaded.
Screen image can be dumped to Acorn JP101 Spark-Jet printer.
Menus can be removed to expand image to full screen size.

Colours
Drawing: Four colours (three foreground, one background).
Painting: 16 colours (four colours and 12 composites of these).
The four drawing and solid painting colours can be selected from any of the BBC Microcomputer's palette of 16 colours (including flashing colours).

Resolution
Unlimited stored resolution.
Display resolution limited only by screen or plotter used.
Angular resolution: One minute of arc.

Joystick
Controls: Three-axis joystick (X, Y and rotation).
Three push buttons for menu-driven option selection.
Indicator: Power LED.
Material: Injection moulded plastic.
Colour: BBC Microcomputer cream.
Signal connection: Ribbon cable to BBC Microcomputer analogue port with connector supplied.
Power supply: From BBC Microcomputer.
Temperature range: 10° to 35°C.
Dimensions: (H×W×D): 130×110×160mm (approx).
Weight: 0.5kg (approx).
Six month guarantee.

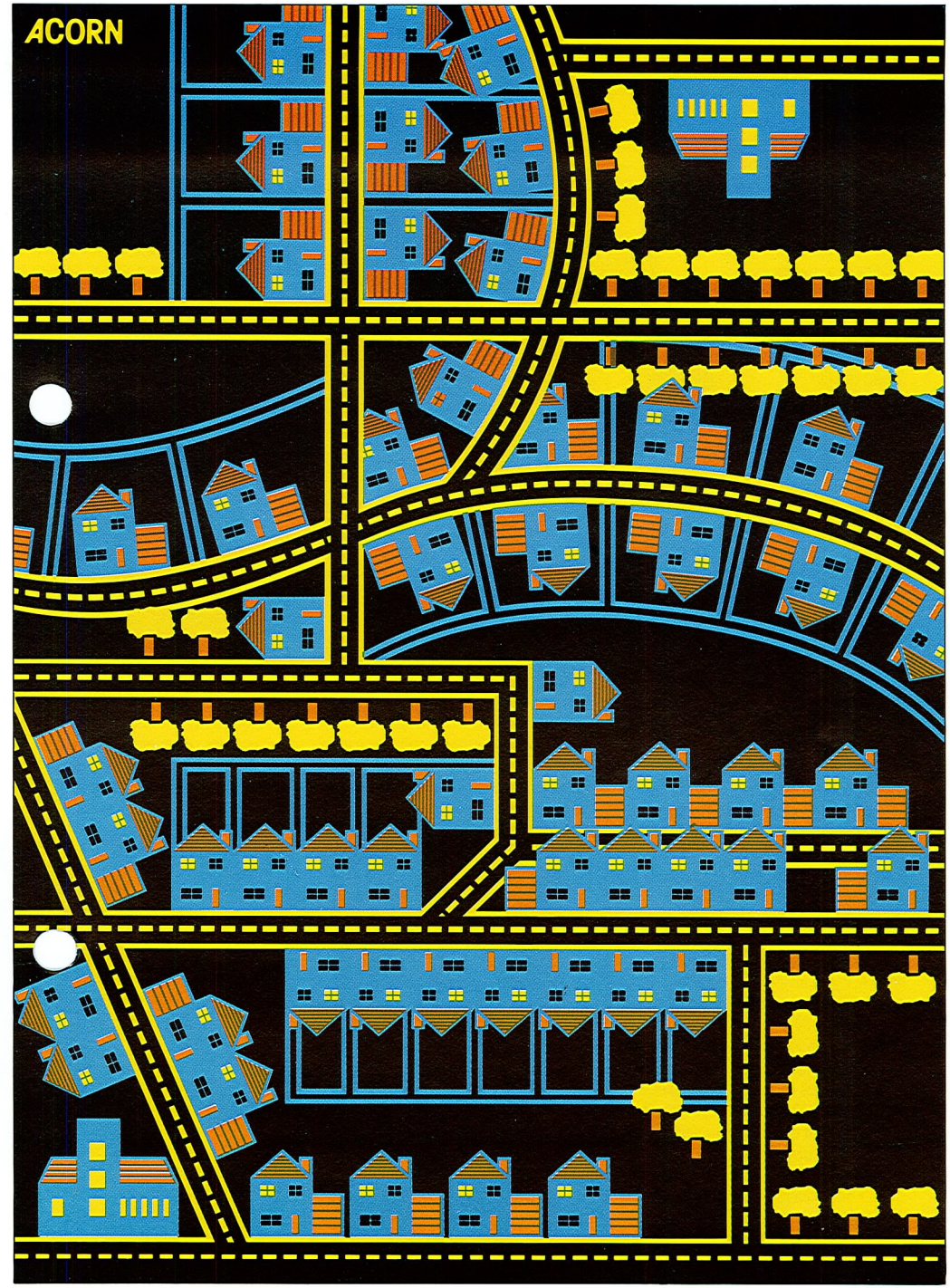
Requirements
The Acorn Bitstik system requires the following additional equipment:
BBC Microcomputer Model B with disc interface and series 1 operating system (operating system provided free if required).
Acorn 6502 second processor system.
Dual disc drive (80 track).
Colour monitor (Acorn RGB monitor recommended).
Acorn JP101 Spark-Jet printer (optional).

Order code
ANF04

ACORN COMPUTER
Acorn Computers Limited
Fulbourn Road
Cherry Hinton
Cambridge CB1 4JN

In this leaflet, the initials BBC stand for the British Broadcasting Corporation.
The Acorn Bitstik system is distributed in the UK by Acorn Computers Limited.
Every effort is made to ensure that the information in this leaflet is correct, but we reserve the right to make alterations to the system at any time. No responsibility is accepted for errors or omissions.

Optimus Graphic Design, Cambridge



For ideas that can multiply...

THE ACORN BITSTIK

The Acorn Bitstik enables you to exploit the renowned graphics capabilities of the British Broadcasting Corporation Microcomputer to the full. With the Bitstik you can turn your graphics ideas into colourful reality in a matter of moments, and it provides the ideal introduction to the exciting world of computer aided design.

Joystick

The Bitstik system consists of a joystick and full supporting software.

The joystick is a robust design which achieves precision without fiddliness. Its movement is smooth yet positive, and the distance of travel is carefully planned to combine accuracy with comfortable operation. It gives rotation as well as movement in the X and Y axes.

Three push buttons conveniently placed on the top of the joystick case are used in selecting functions from the screen menu, making the Bitstik completely independent of the BBC Microcomputer keyboard. After a short time you'll find the joystick becoming almost an extension of your hand so that your eyes need never leave the screen.

Drawing

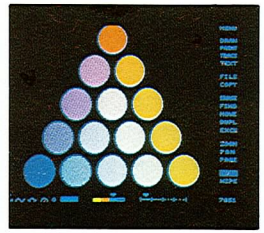
The Bitstik can draw 'freehand' lines for you anywhere on the screen, following the movement of the joystick. Alternatively, it will automatically draw lines of the shape you choose: straight lines, curves, circles or arcs. These lines are first 'sketched' on the screen for you to accept or alter; you don't just have to imagine where they will go.

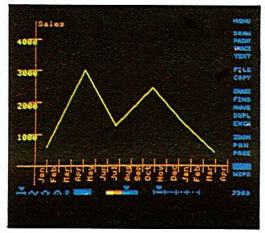
For extra precision, the start and end of lines can be restricted to a grid of points. The spacing and angle of the grid are chosen by the user, allowing the construction of perfectly closed shapes or angles accurate to one minute of arc.

Lines can be solid or selected from a range of dotted and broken types, and the size of the 'pen nib' can be varied, enabling lines to be of any thickness.

Colour

Lines can be drawn in three different colours, and shapes and backgrounds can be 'painted' with colours chosen from a palette containing four solid colours and 12 shades. The colours used can be selected from the full range made available by the BBC Microcomputer.

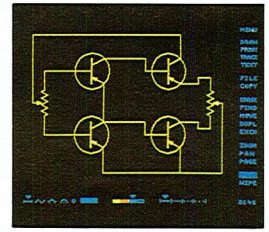




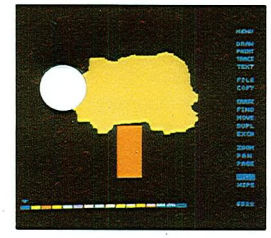
Saving and retrieving

Once a drawing has been created it can be stored by the Bitstik system on disc. Then it can be recalled at any time or included in any other drawing.

Up to 48 different drawings can be stored on a single library disc. One stored drawing can include other stored drawings, and both lines and colour are stored. There is virtually no limit to the complexity of a stored drawing.



The Bitstik uses a visual library system which displays miniature pictures of saved drawings, allowing immediate identification. A recalled drawing can be placed anywhere on the screen, and can be made any size. It can be stretched, squashed, placed at an angle or completely reversed. And the same drawing can be repeated any number of times, enabling complex graphics to be built up from a few basic elements in minutes.



Enlargement

Any part of a screen created using the Bitstik can be enlarged to the full screen size. This enlargement can be repeated again . . . and again . . . giving virtually unlimited magnification. The enlargement is not limited to the information shown on the screen. If the detail you want to see falls outside the screen you can 'pan' in any direction across the enlarged drawing until you find the part you want.

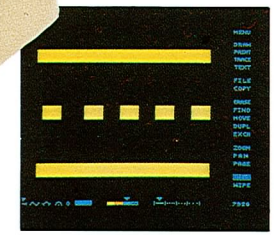
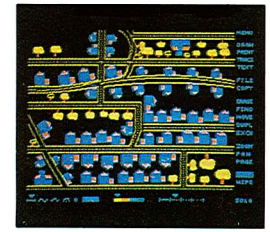
Lines and recalled drawings can be added to an enlarged screen in the normal way and are held by the system even if, on return to the original screen, the extra information is too small to be registered by the screen resolution.

Text

Text typed from the BBC Microcomputer keyboard can be added at any point on the screen and can be shrunk, enlarged, squashed, stretched or turned, just like a shape or drawing.

Printing

The Bitstik is provided with an inbuilt 'dump' facility for printing screen images on the Acorn Spark-Jet black and white printer. Colours are represented by different types of shading.

Simplicity

Despite its powerful and varied functions the Bitstik is extremely easy to use. Its sophisticated software facilities are listed on menus shown at the edge of the screen and are selected using the joystick. Colours and line types are chosen in a similar simple way, and the Bitstik is provided with a comprehensive User Guide.